

## WHAT IS CLAIMED:

1. A method of producing a well comprising the steps of:
  - a) positioning well fluid production tubing within a well borehole in flow communication with a well production zone;
  - b) cementing said production tubing within said well borehole above said well production zone;
  - c) purging substantially all cement from an internal bore of said production tube by fluid displacement; and
  - d) opening the internal bore of said production tube to fluid flow from said production zone by fluid displacement within said internal bore.
  
2. A method of completing a well comprising the steps of :
  - a) assembling a well fluid production string comprising a pressure activated cementing valve, an external casing packer, a pressure activated production valve and a plug seal operatively combined with production tubing, said plug seal being positioned between said production valve and a point of well fluid entry into said production tubing;
  - b) positioning said point of well fluid entry within said well at a desired well fluid production location;
  - c) delivering a pump-down plug into said plug seal;
  - d) increasing fluid pressure within said production tubing to inflate said external casing packer;

- e) increasing fluid pressure within said production tubing to open said pressure activated cementing valve;
- f) pumping a desired quantity of borehole cement down said tubing and through said open cementing valve;
- g) delivering a closing pump-down plug against said pressure activated cementing valve to close said cementing valve;
- h) increasing fluid pressure within said production tubing to open said production valve;
- i) displacing said closing pump-down plug from obstructing a flowpath through said production valve; and
- j) producing well fluid through said production tube.

3. A method of completing a well as described in claim 2 wherein said production string assembly further comprises a production packer positioned up-hole from said cementing valve.

4. A well completion tool comprising the combination of:

- a) a cementing valve having a cement flow channel from an internal pipe bore into a surrounding well annulus, said flow channel being opened by a fluid pressure displaced first sleeve element and closed by a fluid pressure displaced second sleeve element;
- b) a fluid pressure engaged well annulus barrier surrounding said pipe bore and displaced along said pipe bore from said cementing valve;

- 8           c)     a production valve positioned along said pipe bore from said annulus  
9                 barrier in a direction opposite from said cementing valve, said  
10                production valve having a rupture opened flow channel from said  
11                surrounding well annulus into said pipe bore; and  
12           d)     a pipe bore a plug seat positioned along said pipe bore from said  
13                 production valve in a direction opposite from said annulus barrier.

1     5.     A well completion tool as described in claim 4 wherein said cementing valve,  
2     well annulus barrier, production valve and plug seal are serially aligned toward the  
3     well bottom.

1     6.     A well completion tool as described in claim 4 wherein said combination  
2     further comprises a production packer positioned along said pipe bore from said  
3     cementing valve in a direction opposite from said annular barrier.

1     7.     A well completion tool as described by claim 4 wherein said cementing valve  
2     further comprises a closure plug seat positioned in said pipe bore along a direction  
3     from said cement flow channel opposite of said well annulus barrier.

1     8.     A well production string comprising a production tube having an internal flow  
2     bore, said production tube suspending the operative assembly of:

- 3           a)     a cementing valve having a cement flow channel from an internal flow

- bore into a surrounding well annulus, said flow channel being opened by a fluid pressure displaced first sleeve element and closed by a fluid pressure displace second sleeve element;
- b) a fluid pressure expanded well annulus barrier surrounding said production tube and displaced along said production tube from said cementing valve;
- c) a production valve positioned along said production tube from said annulus barrier in a direction opposite from said cementing valve, said production valve having a rupture opened flow channel from said surrounding well annulus into internal flow bore; and
- d) a pipe bore plug seat positioned along said pipe bore from said production valve in a direction opposite from said annulus barrier.

9. A well production string as described in claim 8 further comprising a production packer positioned along said flow bore from said cementing valve in a direction opposite from said annulus barrier.

10. A well production string as described in claim 8 further comprising a well fluid production screen operatively positioned along said flow bore from said plug seat in a direction opposite from said production valve.

11. A well production string as described by claims 8 wherein said production tube further comprises a closure plug seat positioned in said internal flow bore from

3        said cement flow in a direction opposite from said annulus barrier.